

What is claimed is:

1 1. A method of manufacturing a hermetically-sealed optoelectronic package having
2 an optoelectronic device mounted on a first portion of a top surface of an insulating base,
3 a metal layer mounted to a second portion of the top surface of the insulating base, the
4 second portion surrounding the first portion, and a metal cap coupled to the metal layer,
5 the method comprising:

6 supplying a force to push the metal cap against the metal layer;
7 applying a first electrode to the metal cap;
8 applying a second electrode to the metal layer; and
9 supplying a current between the first and second electrodes to weld the metal cap
10 to the metal layer.

1 2. The method of claim 1, wherein the second electrode has multiple fingers
2 to make contact with the metal layer at multiple points.

1 3. The method of claim 2, wherein the multiple fingers of the second
2 electrode are independently positioned on the metal layer.

1 4. The method of claim 2, further comprising:
2 independently adjusting one or more currents provided to the multiple fingers of
3 the second electrode.

1 5. The method of claim 1, wherein the metal cap is coupled to an upper
2 surface of the metal layer and the second electrode is also coupled to the upper surface of
3 the metal layer.

1 6. The method of claim 1, wherein the metal cap is coupled to an upper
2 surface of the metal layer and the second electrode is coupled to a side surface of the
3 metal layer, the side surface being substantially 90 degrees from the upper surface.

1 7. The method of claim 1, wherein the metal cap is coupled to an upper
2 surface of the metal layer and the second electrode is coupled to a bottom surface of the
3 metal layer, the bottom surface being substantially 180 degrees from the top surface.

4 8. The method of claim 1, wherein the second electrode is cone-shaped.

1 9. A method for manufacturing an electronic package, comprising:
2 applying a first electrode to a cap;
3 applying at least one or more second electrodes to a ceramic substrate, wherein
4 the at least one or more second electrodes are applied to at least one or more sidewalls of
5 the ceramic substrate and wherein the ceramic substrate includes a seal disposed on a
6 surface of the ceramic substrate to contact the cap;
7 contacting the cap with the seal of the ceramic substrate; and
8 applying a current between said first electrode and said at least one or more
9 second electrodes to weld the cap to the ceramic substrate.

1 10. A method as claimed in claim 9, wherein the ceramic substrate is a
2 rectangular structure having at least four sidewalls.

1 11. A method as claimed in claim 9, wherein the ceramic substrate has a least one
2 sidewall.

1 12. A method as claimed in claim 9, wherein the substrate has at least one curved
2 sidewall.

1 13. A method as claimed in claim 9, wherein the ceramic substrate includes a
2 radio-frequency circuit disposed thereon.

1 14. A method as claimed in claim 9, further comprising controlling the current in
2 individual ones of the at least one or more second electrodes to provide a hermetic seal
3 between the cap and the ceramic substrate.

1 15. A method as claimed in claim 9, wherein the at least one or more second
2 electrodes include an insulator to contact a base support during said applying a current.

1 16. A method as claimed in claim 9, wherein the ceramic substrate does not
2 include filled vias to pass welding current.

1 17. A method as claimed in claim 9, wherein the ceramic substrate is a
2 rectangular structure having four sidewalls, the at least one or more second electrodes
3 including four second electrodes to be applied to respective sidewalls of the ceramic
4 substrate.

1 18. A method for manufacturing an electronic package, comprising:
2 applying a first electrode to a cap;
3 applying at least one or more second electrodes to an insulator substrate, wherein
4 the at least one or more second electrodes are applied to at least one or more sidewalls of
5 the insulator substrate and wherein the insulator substrate includes a seal disposed on a
6 surface of the insulator substrate to contact the cap;
7 contacting the cap with the seal of insulator substrate; and
8 applying a current between said first electrode and said at least one or more
9 second electrodes to weld the cap to the insulator substrate.

1 19. A method as claimed in claim 18, wherein the insulator substrate has a
2 conductivity of less than 1 (ohm-centimeters)⁻¹.

1 20. A method as claimed in claim 18, wherein the insulator substrate is a
2 rectangular structure having four sidewalls, the at least one or more second electrodes
3 including four second electrodes to be applied to respective sidewalls of the insulator
4 substrate.